

CLAIMS

1. A device for cooling a free-flowing molten food product (1), in particular a cheese melt, which is shaped to form a food product strip (2), whereby the device has two parallel, continuous cooling belts (3) which guide the food product strip (2) with contact on both sides, thereby cooling it,

characterized in that

the cooling belts (3) are aligned at an angle between 45° and 90° to the horizontal and guide the strip (2) at the corresponding angle.
2. The device according to Claim 1,

characterized in that

the cooling belts (3) are arranged in a vertical position.
3. The device according to Claim 2,

characterized in that

the direction of movement of the cooling belts (3) is from top to bottom.
4. The device according to Claim 3,

characterized in that

each cooling belt (3) runs over an upper guide roller (4) and a lower guide roller (6), whereby all the guide rollers (4, 6) are aligned to be axially parallel to one another.

5. The device according to Claim 4,

characterized in that

the axis of one of the two lower guide rollers (6) is arranged so that it is offset above the axis of the other lower guide rollers (6), so that the cooling belt (3) guided by this roller is lifted up away from the other cooling belt, which is still running vertically at this location.

6. The device according to Claim 4,

characterized in that

one of the two upper guide rollers (4a) is acted upon by a cooling medium (20) to achieve cooling of this guide roller (4a) in relation to the other guide roller (4b).

7. The device according to any one of the preceding claims,

characterized in that

two upper guide rollers (4) form a filling gap (5) which receives the material (1) between the guided cooling belts, whereby the contra-rotating guide rollers (4) with the cooling belts (3) wrapped around them shape the material fed into the filling gap (5) to form a strip in the manner of a calibration device.

8. The device according to Claim 7,

characterized in that

the thickness of the food product strip (2) that is to be cooled is adjustable by the calibration device over the width of the filling gap (5).

9. The device according to Claim 7 or 8,

characterized in that

the calibration device has means with which the width of the belt (2) is adjustable.

10. The device according to Claim 9,

characterized in that

the means are comprised of tubes made of Teflon in particular, mounted on bordering means that define the width of the filling gap, protruding into the gap between the parallel cooling belts (3).

11. The device according to Claim 10,

characterized in that

the tubes are inflatable and in the inflated state are in contact with the cooling belts (3).

12. The device according to any one of the preceding claims,

characterized in that

the cooling belts (3) are sprayed with a cooling liquid (7), ice water in particular, on the surface facing away from the food product strip (2).

13. The device according to any one of the preceding claims,

characterized in that

the speed of the cooling belts (3) is adjusted so that on exiting from the cooling system, the food product (1) has reached a pasty state in which it is laminable in layers due to the cooling.

14. The device according to any one of the preceding claims,

characterized in that

the cooling belts (3) are made of steel strip, whereby the steel strip has a thickness between 0.1 millimeter and 3 millimeters in particular and a width between 0.5 meter and 2.0 meters in particular.

15. The device according to any one of the preceding claims,

characterized by

a pressing device which acts on one of the cooling belts (3) and by means of which the distance between the cooling belts (3) and/or the contact pressure on the belt (2) is adjustable.

16. A method for shaping and cooling a free-flowing molten food product, in particular a cheese melt, through a device according to any one of the preceding claims,

characterized in that

the mass is supplied from above to the filling gap which is shaped by the guide rollers (4) guiding the cooling belts (3); the material is rolled in the beginning area of the processing zone through the cooling belts (3) to form a food product strip and the material is cooled by means of the parallel cooling belts (3) after rolling.